

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of)
SHELL CHEMICAL COMPANY) FCC File No. 0000310914
Application for License for Trunked)
Industrial/Business Radio Service and Request for)
Waiver of Commission Rules)

ORDER

Adopted: February 22, 2002

Released: February 25, 2002

By the Acting Chief, Public Safety and Private Wireless Division, Wireless Telecommunications Bureau:

I. INTRODUCTION

1. In this Order, we address the above-captioned application and waiver request of Shell Chemical Company (Shell) for authority to operate a trunked Industrial/Business Radio Service system at Deer Park, Texas. For the reasons set forth below, we deny the waiver request and dismiss the application.

II. BACKGROUND

2. On February 28, 2001, Shell, which operates a petrochemical facility in Deer Park, Texas, filed an application seeking authorization to use the following eleven Part 22 Public Mobile Service UHF channel pairs as part of a trunked Industrial/Business Radio Service system in Deer Park, Texas: 488/491.0250 MHz, 488/491.0500 MHz, 488/491.0750 MHz, 488/491.1000 MHz, 488/491.1250 MHz, 488/491.1500 MHz, 488/491.1750 MHz, 488/491.2000 MHz, 488/491.2250 MHz, 488/491.2500 MHz, and 488/491.2750 MHz. Shell also filed a request for waiver of Sections 22.7, 22.621, and 22.651 of the Commission's Rules, as well as any other rules necessary to permit it to operate a Private Land Mobile Radio (PLMR) station on those frequencies. On May 15, 2001, the Commission released a Public Notice

1 FCC File No. 0000310914 (Application).

2 Shell offers an alternative proposal, stating that if the Commission prefers to assign 6.25 kHz offset frequencies, Shell would accept the following fifteen channel pairs: 488/491.01875 MHz, 488/491.03125 MHz, 488/491.04375 MHz, 488/491.05625 MHz, 488/491.06875 MHz, 488/491.08125 MHz, 488/491.09375 MHz, 488/491.10625 MHz, 488/491.11875 MHz, 488/491.13125 MHz, 488/491.14375 MHz, 488/491.15625 MHz, 488/491.16875 MHz, 488/491.18125 MHz, and 488/491.19375 MHz.

3 47 C.F.R. §§ 22.7, 22.621, 22.651.

4 Letter from J. A. Hassell, Supervisor, Communication Services, Deer Park Chemical Plant, to D'wana R. Terry, Chief, Public Safety and Private Wireless Division, Wireless Telecommunications Bureau (dated Feb. 28, 2001 and filed Mar. 12, 2001) (Waiver Request).

seeking comment on Shell's proposal.⁵ On June 8, 2001, Westel Communications, Inc. (Westel), a commercial mobile radio service (CMRS) provider located in the Houston, Texas area, filed comments opposing Shell's application and Waiver Request.⁶ Comments were also filed by Shell on June 12, 2001.⁷

3. On June 20, 2001, Shell filed reply comments in which it amended the original application and revised its engineering analysis in an attempt to alleviate concerns raised by Westel that Shell's proposed operations would cause harmful interference to Westel's Station WXR977 in and around Houston, Texas.⁸ Shell's amended application reduces the proposed transmitter power from 25 to 15 watts effective radiated power (ERP) and decreases the proposed antenna height from 49 to 15 meters.⁹ Moreover, the revised engineering analysis was performed using the interference criteria specified in Section 22.567 of the Commission's Rules.¹⁰ On July 2, 2001, Westel filed supplemental comments opposing Shell's revised proposal.¹¹

III. DISCUSSION

4. Shell states that a reliable telecommunications system at its Deer Park facility is essential to the safety of Shell's employees and the people who live near the plant.¹² The Deer Park plant is Shell's largest facility in the United States where crude oil is refined and manufactured into various products. Shell contends that a half million people and 7000 Shell employees are located within a six and a half-mile radius of the petrochemical facility at Deer Park, Texas.¹³ Shell contends that due to the size and location of its facility, a trunked radio system is essential in order to provide reliable and efficient communications.¹⁴ In addition, Shell has provided evidence that there are no available frequencies in the 450-470 MHz, 470-512 MHz, 806-860 MHz, or 935-940 MHz bands at Deer Park, Texas, for trunked operations.¹⁵ Shell argues that these are unique factual circumstances warranting grant of its Request.¹⁶ Further, Shell contends that its amended proposal would provide "co-channel interference protection to

⁵ Wireless Telecommunications Bureau Seeks Comment on Request for Waiver by Shell Chemical Company to Obtain a License for Eleven Unassigned UHF Public Mobile Service Channel Pairs, *Public Notice*, 16 FCC Red 10705 (WTB PSPWD 2001).

⁶ Westel Communications, Inc. Comments, filed June 8, 2001 (Westel Comments).

⁷ Shell Chemical Company Comments, filed June 12, 2001 (Shell Comments).

⁸ Shell Chemical Company Reply Comments, filed June 20, 2001 (Shell Reply); Westel Comments at 3-4.

⁹ Shell Reply at 2.

¹⁰ 47 C.F.R. § 22.567. Shell's initial engineering analysis was performed using the criteria set forth in Section 90.187 of the Commission's Rules. 47 C.F.R. § 90.187. See Shell Application at Attachment 3.

¹¹ Westel Communications, Inc. Supplement to Comments at 2, filed July 2, 2001 (Westel Supplemental Comments). This submission was accompanied by a Motion for Leave to File Supplement to Comments in which Westel argues that it should be permitted to supplement its original comments in order to address Shell's significant revision to the original application. Westel Communications, Inc. Motion for Leave to File Supplement to Comments at 1-2, filed July 2, 2001. We grant Westel's motion because Shell modified its proposal when Shell filed its reply comments and because consideration of Westel's supplemental comments would allow us to make a decision based on a more complete and comprehensive record.

¹² Waiver Request at 2.

¹³ *Id.*

¹⁴ Shell Comments at 3-4.

¹⁵ Waiver Request, Attachment 2.

¹⁶ *Id.*

Westel's system."¹⁷ On the other hand, Westel alleges "that use of the referenced frequencies by Shell will still cause interference to Westel."¹⁸

5. A waiver may be granted where the applicant demonstrates that:

- (i) The underlying purpose of the rule(s) would not be served or would be frustrated by application to the instant case, and that a grant of the requested waiver would be in the public interest; or
- (ii) In view of unique or unusual factual circumstances of the instant case, application of the rule(s) would be inequitable, unduly burdensome or contrary to the public interest, or the applicant has no reasonable alternative.¹⁹

6. Based upon our review of the record in this proceeding, we conclude that Shell has not demonstrated sufficiently that a waiver is warranted under the circumstances presented. In this regard, we find in this case that Shell's proposed station would not meet the interference criteria set forth in Section 22.567 of the Commission's Rules.²⁰ Although the Commission has no specific interference rules for base-to-mobile operations on the subject frequencies (which are allotted under Section 22.651 of the Commission's Rules), we find that Section 22.567 of the Commission's Rules, which is used by Shell and Westel in their pleadings and which applies to similar frequencies, is an appropriate means of determining whether interference will exist.²¹ Under that rule, an application may be granted only if "[t]he interfering contour of the proposed transmitter does not overlap the service contour of any protected co-channel transmitter controlled by a carrier other than the applicant, unless that carrier has agreed in writing to accept any interference that may result from operation of the proposed transmitter."²² The distance to the service area contour of the incumbent stations is calculated using the following equation: $d = 1.726 \times h^{0.35} \times p^{0.18}$, where d is the radial distance in kilometers, h is the radial antenna HAAT in meters, and p is the radial ERP in watts.²³ For stations with HAAT of less than 150 meters, the distance to the interference contour of the proposed station is calculated using the formula $d = 9.471 \times h^{0.23} \times p^{0.15}$.²⁴ In both cases, the rules provide that "[t]he value used for p in the above formula must not be less than 27 dB less than the maximum ERP in any direction, or 0.1 watt, whichever is more."²⁵

7. Shell proposes to use a directional antenna with a beamwidth of 60 degrees and a front-to-back ratio of 35 dB.²⁶ Shell offers an analysis that purports to show that its proposed operation would not interfere with Westel's station.²⁷ Shell uses an ERP of less than 0.1 watt in the equations under Section

¹⁷ Shell Reply at 1-2.

¹⁸ Westel Supplemental Comments at 2.

¹⁹ 47 C.F.R. §§ 1.925(b)(3).

²⁰ 47 C.F.R. § 22.567.

²¹ *See Id.* *See also* Amendment of Parts 21, 89, 91 and 93 of the Rules to Reflect the Availability of Land Mobile Channels in the 470-512 MHz Band in the 10 Largest Urbanized Areas of the United States, Docket No. 18261, *Second Report and Order*, 30 FCC 2d 221, 234 ¶ 31 (1971).

²² 47 C.F.R. § 22.567(a)(1).

²³ 47 C.F.R. § 22.567(e).

²⁴ 47 C.F.R. § 22.567(f)

²⁵ 47 C.F.R. § 22.567(e)(2), (f)(3).

²⁶ Shell Reply at 2.

²⁷ *Id.* at Attachment 1.

22.567 of the Commission's Rules, despite the rule's requirement that 0.1 watt be the minimum value.²⁸ In using this value, Shell argues that "the Commission may use actual HAAT and ERP data in resolving petitions to deny."²⁹ Shell's interpretation of Section 22.567(f)(4) of the Commission's Rules, however, is incorrect. That rule provides:

The distance from the transmitting antenna to the interfering contour along any radial other than the eight cardinal radials is routinely calculated by linear interpolation of distance as a function of angle. However, in resolving petitions to deny, the FCC may calculate the distance to the interfering contour using the appropriate formula in paragraph (f) of this section with actual HAAT and ERP data for the inter-station radial and additional radials above and below the inter-station radial at 2.5° intervals.³⁰

A typical interference analysis first calculates the eight cardinal radials using the formulas in Section 22.567(f)(1)-(3) of the Commission's Rules.³¹ Next, linear interpolation is routinely used in order to complete the outer boundary of the interfering contour.³² The rule means that, in order to resolve petitions to deny, actual ERP may be used to complete this outer boundary of the interfering contour by calculating the distance from the transmitting antenna to the interfering contour along "the inter-station radial and additional radials above and below the inter-station radial at 2.5 degree intervals."³³ Calculation of the cardinal radials, however, still requires the use of a minimum ERP of 0.1 watt, and Shell's use of actual ERP in its calculations is thus contrary to the rule.

8. Using 0.1 watt as the ERP of the proposed Shell base stations, the interference contours from such base stations overlap the service contour of Westel's transmitter at Missouri City, Texas. Also, using that figure, the interference contours of Westel's stations completely encompass the service area contour of Shell's proposed station. Further, although these equations are based on a terrain variation of 50 meters, the actual terrain variation for Houston is significantly less than terrain variation on which the formulas were derived. Since the terrain variation is less than 50 meters, the actual received signals from each facility would be greater than those predicted by the formula. Moreover, because some of Shell's proposed mobiles would operate on the base channel pairs listed on Section 22.651 of the Commission's Rules at a power of 20 watts, the areas of interference from Shell's mobile units could be even greater than those of the base stations. Thus, we conclude that Shell's proposed station would interfere with Westel's Station WXR977 at Missouri City, Texas. Accordingly, we conclude that a waiver of the Commission's Rules would not be appropriate here because one of the underlying purposes of the rules – protection from interference – would be frustrated if we granted a waiver in this case.

9. Moreover, while we recognize the potential public interest benefits of Shell's proposal, we find that Shell has not satisfied the second prong of the Commission's waiver standard because it has not demonstrated that this situation constitutes a unique or unusual factual circumstance.³⁴ In this connection, Shell states that use of the subject frequencies is essential to safe day-to-day operations, that

²⁸ *Id.* at § 22.567(f)(3).

²⁹ Shell Reply at 3, *citing* 47 C.F.R. § 22.567(f)(4).

³⁰ 47 C.F.R. § 22.567(f)(4).

³¹ 47 C.F.R. §§ 22.567(f)(1)-(3).

³² 47 C.F.R. § 22.567(f)(4).

³³ *Id.* (emphasis added).

³⁴ 47 C.F.R. § 1.925(b)(3)(ii).

all possible options have been explored with no reasonable alternative, and that the revised proposal uses engineering solutions that meet Shell's communications needs without disrupting Westel's operations, thereby promoting the public interest.³⁵ While we believe that safe operations is an important public policy goal, in light of our conclusion that Shell's proposed operations and Westel's operations would interfere with each other, we believe that a grant of Shell's waiver request would not necessarily provide the significant safety benefits claimed by Shell. Similarly, although there is often a shortage of spectrum in certain areas of the country, such a shortage is not a unique or unusual circumstance that, standing alone, would justify grant of a waiver.³⁶ Finally, as Shell's public interest arguments here are largely based on its incorrect claim that its "requested operation lies outside the service area of Westel,"³⁷ we do not believe that the public interest would be served by granting the waiver request.³⁸

IV. CONCLUSION AND ORDERING CLAUSES

10. We conclude that Shell's proposed operations at Deer Park, Texas would cause harmful interference to the co-channel operations of Westel, an existing CMRS provider, and that Shell's need for spectrum does not constitute a unique or unusual factual circumstance sufficient to warrant a waiver of the Commission's interference protection rules. Therefore, because Shell has not met the Commission's criteria for granting a waiver in the instant case, its waiver request will be denied, and its application will be dismissed.

11. Accordingly, IT IS ORDERED that, pursuant to Section 4(i) of the Communications Act of 1934, as amended, 47 U.S.C. § 154(i), and Sections 1.925 and 22.567 of the Commission's Rules, 47 C.F.R. §§ 1.925, 22.567, the request for waiver filed on March 12, 2001 by Shell Chemical Company IS DENIED.

12. IT IS FURTHER ORDERED that, pursuant to Section 4(i) of the Communications Act of 1934, as amended, 47 U.S.C. § 154(i), and Sections 1.934(d)(2) and 22.567 of the Commission's Rules, 47 C.F.R. §§ 1.934(d)(2), 22.567, the application filed on March 12, 2001 by Shell Chemical Company IS DISMISSED.

13. This action is taken under delegated authority pursuant to Sections 0.131 and 0.331 of the Commission's Rules, 47 C.F.R. §§ 0.131, 0.331.

FEDERAL COMMUNICATIONS COMMISSION

Barry J. Ohlson
Acting Chief, Public Safety and Private Wireless Division
Wireless Telecommunications Bureau

³⁵ Shell Reply at 3-4.

³⁶ See License Communications Services, Inc., *Memorandum Opinion and Order*, 13 FCC Rcd 23781, 23791 ¶ 21 (1998).

³⁷ Shell Reply Comments at 4.

³⁸ We also note that Westel is authorized to expand its system by locating base transmitters anywhere within 50 miles, and mobile transmitters within 80 miles, of Houston, Texas. See 47 C.F.R. §§ 22.165, 22.651, 22.653, and 22.657. Although Shell's proposed site is located within a 50-mile radius of Houston, Texas, we do not address the issue of whether Westel's potential ability to expand its system would justify denying Shell's waiver request.